Reviewer's report

**Title:** Cluster randomised controlled trial of the Healthy Lifestyles Programme (HeLP), a novel school-based intervention to prevent obesity in school children: Study protocol

**Version:** 2 **Date:** 9 January 2013

**Reviewer:** Steven Kelder

**Reviewer's report:**

My specific comments to authors are below.

Please number the pages.

Abstract. Shorten to 300 words. Add detail on the intervention components. Provide expected number of children.

Background. Literature review on child obesity is out of date with respect to risk factors, and intervention programs. I suggest you organize the risk factor paragraph to provide justification for the program elements that will be used in the HeLP program.

The authors make the statement: "However, situating an intervention within a school is not sufficient in itself to generate group-level behaviour change or maintenance of new behavioural patterns. It is critical to engage and motivate children and to generate a supportive social context involving the whole school and parents [4]." This needs more substantiation than simply reference [4].

Authors make the case that school alone is insufficient and that motivation is necessary. Please provide more justification for this approach, e.g., what evidence is available to support that this approach will work with childhood obesity?

If motivation is the key ingredient for program success, it should be measured.

The abstract provides primary and secondary aims, yet the methods section does not distinguish between the two levels.

Provide more detail in the design sentence about the number of units, main outcome variable, and timing of measures.

Although Table 1 describes the intervention in some detail, I am unclear on the timing of events. It would be helpful to have corresponding text that describes in more detail the categories of intervention; e.g., classroom lessons; school presentations, parent intervention.

Some parts of the method section are in outline format versus journal format.
Table 2 & Figure 1. Table 1 indicated 35 students per cluster, but table 1 indicated 980 total children (980/32 is 30.6 children). Please reconcile the difference.

The timing of cohort 1 and 2 as presented is confusing.

The moderating and mediating variables section is insufficient. Provide more detail on psychometric properties. Also, child motivation appears not to be measured which is curious because it is an important intervention technique.

Please provide estimation of intervention effects from the pilot study.

The Food Intake Questionnaire is insufficiently described.

"Throughout the analysis, emphasis will be placed on estimation rather than hypothesis testing." I don't understand this sentence.